Project Title:
Time Dependence of Solar Magnetic Fields

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Project Information:
We will address the needs of the Living With a Star program in the area of Space Science using observational methods and models of the sun's magnetic field configuration available from MDI, TRACE, the Mt. Wilson Observatory and other ground-based observatories. We will study the variability and disturbances of the field strength and configuration on time scales from hours to decades in order to:
1) learn the nature of the readjustment of the Sun's field which takes place during a CME,
2) establish better methods of predicting the solar wind speed and magnetic field orientation and
3) establish an improved long-term magnetic field strength database for application to the study of the evolution of the total solar irradiance during the 20th century.

To address these goals we will:
1) correct for mirror polarization in the Mt. Wilson database,
2) intercompare magnetic field measurements made by MDI, Mt. Wilson, the Wilcox Observatory and the National Solar Observatory,
3) study the effect of transverse magnetic fields on the potential field source surface calculation,
4) carry out CME retrospective studies and CME campaign observations,
5) develop predictive methods for treating the unseen side of the Sun's surface,
6) make regular observations of the saturation free line at $\lambda 523.3$ nm and
7) organize and host a magnetogram intercomparison workshop.

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Citations:

Summary: no summary

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